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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/679,649	10/06/2003	Bhaskar Ramamurthy	2003P07776US01	3931

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Siemens Corporation
Intellectual Property Department
170 Wood Avenue South
Iselin, NJ 08830

EXAMINER

JAGAN, MIRELLYS

ART UNIT	PAPER NUMBER
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2859

DATE MAILED: 03/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/679,649	Applicant(s) RAMAMURTHY ET AL.	
	Examiner Mirellys Jagan	Art Unit 2859	<i>Am</i>

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,9-14,23-29 and 33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,13,23,24 and 33 is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☒ Claim(s) 2,9-12,14 and 25-29 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. - |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 2, 9-12, 14, and 25-29 are objected to because of the following informalities:

In claim 2, there is lack of antecedent basis in the claim for a “connection”; it is not clear where the beamformer channel is located, e.g., is it in the ultrasound transducer or in the ultrasound imaging system?; it is not clear if the connections referred to in the last line is referring to the connections claimed in line 3; and it is not clear where the acoustic imaging signals are received from, e.g., are the acoustic imaging signals received from the transduction elements?

In claim 9, it is not clear if the ‘acoustic energy’ is referring to the ‘received signals’ from the transduction element of the ultrasound transducer. Furthermore, it is not clear where the acoustic signals are being transmitted to; and it is not clear where the transmit beamformer is located, e.g., is it in the ultrasound transducer or in the ultrasound imaging system? Accordingly, it is not clear how the echo signals, i.e., the received signals, are received ‘responsive to transmitting the acoustic energy’.

In claim 10, it is not clear if the acoustic velocity is the temperature-dependent property of claim 1; and it is not clear if the ‘lens or window’ is referring to the same ‘lens or window’ of claim 1.

In claim 11, it is not clear if the calculated difference is referring to the temperature-dependent property of claim 1.

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Claim 12 is dependent on a cancelled claim.

In claim 14, it is not clear where the 'signals' are originating from, e.g., are the signals from the elements of the transducer?; and it is not clear where the acoustic imaging signals are received from, e.g., are the acoustic imaging signals received from the elements of the transducer?; and there is lack of antecedent basis in the claim for a "connection", e.g., it is not clear if the connection is an electrical connection that connects the elements to the imaging system.

In claim 25, it is not clear if the 'frequency content' is referring to the 'temperature-dependent property' of claim 1.

In claim 26, it is not clear where the waveform is being transmitted to, and where it is originating from; and it is not clear how step (b) can be performed based on step (d) since step (d) occurs after step (b).

In claim 27, it is not clear how the temperature-dependent property is determined at the plurality of locations along the lens or window without having the transduction elements located at these locations.

In claims 28 and 29, it is not clear what is being transmitted multiple times.

Appropriate correction is required.

Allowable Subject Matter

2. Claims 1, 13, 23, 24, and 33 are allowed.

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3. Claims 2, 9-12, 14, and 25-29 would be allowable if rewritten to overcome the objections set forth in this Office action.

4. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record does not disclose or suggest the following in combination with the remaining limitations of the claims:

A method of determining a temperature of an ultrasound transducer, the method comprising determining an acoustic property of a lens or window of the transducer (see claim 1);

Determining the temperature of the transducer with components in the imaging system from signals on connections also used for acoustic imaging signals (claim 14); determining a temperature-dependent property of the transducer from the received signals for a plurality of locations along a lens or window of the transducer (see claim 27); determining the temperature dependent property from a combination of the received signals from the multiple firings (see claim 28); shifting at least a first one of the received signals relative at least a second one of the received signals (see claim 29).

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

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5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mirellys Jagan whose telephone number is 571-272-2247. The examiner can normally be reached on Monday-Friday from 11AM to 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez can be reached on 571-272-2245. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MJ
March 8, 2006



Diego Gutierrez
Supervisory Patent Examiner
Technology Center 2800